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ABSTRACT

The task of properly integrating computers into an elementary curriculum which is being taught in a classroom is difficult because it requires changes in school organization, teacher training, curriculum objectives, and teaching methods. Since teacher training is the most crucial part, some of these obstacles can be overcome by hiring a computer coordinator to show the use of the computer and its software, and to aid teachers in finding opportunities to practice and to incorporate computer use in the various subject areas. If teachers are to use the computer as an innovative tool to teach writing, science, math, history, and social studies, and not to be used solely for drill and practice and programming, then ample opportunity must be provided for teachers to practice the concepts of computer usage. This can be accomplished through regulated planning periods, lunch review sessions, or allowing the teachers to take the computer home over weekends. The advantages of overcoming the obstacles mentioned above can be seen in increased scores on math and spelling tests and longer and more original student research papers. Once the computer is integrated into the curriculum of a classroom, the sky is the limit. The computer will be there to assist teachers as they demonstrate their own creative style of teaching. (DJR)

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Yes, Computers in the Classroom

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Yes, Computers in the Classroom

In the fall of 1984, The Struthers City Schools decided to purchase and integrate computers into the elementary grades. As an elementary computer coordinator, it became my responsibility to develop a computer program that would benefit these students.

Our first choice was to place the computers in a lab. But, like many school districts throughout the United States, our classrooms are crowded and empty rooms nonexistent. Our only alternative was to place the computers in the classrooms. When you consider how convenient it is to place computers in a lab where less equipment, software, teacher preparation, and organizational skills are needed, you immediately realize the task we had before us. With a limited budget, we decided to place one computer in each fourth, fifth, and sixth grade classrooms. In 1985, we added a second computer to each of these classrooms plus a computer in all of the special service departments.

Our concept, brought about by overcrowded buildings with no room for a lab, has enabled us to more effectively weave computers into the curriculum areas. In my opinion, computers belong in the elementary classroom, the very heart of a school, where thinking, learning, and creating is occurring.

Many administrators, eager to provide the latest technology for their students, rushed out and purchased computers for their elementary schools. Often, little preparation or planning was used. One group of administrators placed them in the classroom with disappointing results. Teachers who were given a 10-hour crash course by the salesmen of the computer store where the computers were purchased still felt inadequate and the computer sat idle. Many teachers, frustrated with the "latest technology" collecting dust in their room, took a basic programming course at a local computer store only to become more frustrated as they tried to find a way to incorporate programming into their social studies lesson. Many teachers quit. A few teachers, armed with curiousity and determination, took the computer home until they were computer literate. Wrong software was bought and lost. Computers often were damaged by students untrained on proper computer etiquette. Computer arcade games to entertain students during study hall time or recess often became the only use of the computer.

Another group put computers on carts and wheeled them from room to room. Not only were computers damaged due to jarring and bumping them as they moved from room to room, but, also, software was lost, misplaced, or left behind. Teachers who were fearful of the computer gave their computer time to another teacher. Many times the mobile units became immobile arcade games or dust collectors.

A third group of administrators, the watch and see what happens type, heard the horror stories of computers in the classrooms and on wheels and placed the computers in a sterile, organized lab. It eliminated the need for teacher competency in computers. Instead of massive teacher training on computers, one teacher needed to be trained. Instead of many computers needed, few were needed. Instead of software being lost or damaged, it was organized and unmarred. No wonder results from a 1984 study on location of computers in elementary and secondary schools by The Center for Social Organization of Schools of John Hopkins University found 42% of the elementary computers were in a lab setting as compared to 32% in a classroom ("National School Board's",1984).

The easy way, though, is not always the best. Gary Bitter (1985) agrees that computers receive greater use in a lab as do films and film projectors but argues "is the goal simply to use computers for so many hours a day or to use them effectively as tools when they are needed?" (p.17).

How effective can the computer be when you are scheduled for 30 minutes every Thursday? Because the availability is a deterrent, there is little integration into the curriculum. Instead of using the computer to learn reading comprehension, it more readily gets used for Logo, a programming language. This narrows the computer to a tool to study instead of a tool for study. An article on nine uses to consider when setting up a computer program states "if computing is not physically integrated into the classroom, then computers won't become tools for learning to write, for practicing science, and exploring mathematics; they won't be used to learn history and social studies. What they generally will be used for is drill and practice, computer literacy, and programming" (Bitter, 1984, p.14). The secret, then, is proper integration of computers into the curriculum which is being taught not in a lab, not in the library, but in the classroom.

The task of integrating the computers into the curriculum in the classroom is difficult. Sue Talley of Apple Computer Co. says it best. "It requires the most change and the most risk. It requires a change in school organization, teacher training, curriculum objectives, and methodology" (Talley's study (cited in Charp, 1984). Teacher training is the crucial part of the integration. As the facilitator of learning in the classroom, it is he/she that teaches curriculum objectives and decides the

methodology appropriate to obtain these objectives. A computer coordinator must be hired to not only show how to use the computer and its software, but also design a plan to aid the teacher in finding opportunities to practice and incorporate the computer into his/her subject areas. The teacher must feel comfortable with the computer if it is to become an exciting and innovative tool in the class. It is time, though, and not fear, that often prohibits this from happening. Free time is scarce when you consider that the average elementary teacher facilitates six reading groups and two math groups each day. In addition, he/she teaches health, science, English, social studies, and spelling each day. Also, there are no regulated planning periods each day and many extra duties and obligations must be met, such as phone calls to parents, lunch duty, recess duty, and detention duty. Teachers need time to practice the concepts they have learned or they will quickly become overwhelmed.

A teacher should have the opportunity to spend 45 minutes a week either before school, after school, during a planning period, or at lunch reviewing a new concept demonstrated by the coordinator. He/she should also be given the opportunity to take the computers home over the summer, holiday, and weekend breaks. Tom Lambric (1984) states "a computer is so powerful and so flexible that it can become almost whatever one can imagine it to be" (p.2).

But you can't imagine its uses if you haven't had ample time to practice.

Is it worth overcoming the powerful obstacles to bring understanding and knowledge of computers to all elementary teachers? Is it worth asking teachers to redesign their methodology of teaching and curriculum objectives so the computer can be a viable part of their classroom when the methodology and curriculum objectives they are presently using works so well? With math test scores increasing due to a decrease in careless errors, research papers becoming longer and more original, and spelling scores increasing 20-30 points average per test after using the computer, I knew it was worth it. The first time a learning disabled student became motivated by the computer to create a research paper I knew it was worth it. The first time a student arrived at school early or gave up his/her recess time to use the computer I knew it was worth it. The last day of school as a student kissed the teacher and the computer good-bye I knew it was worth it.

Once the computer is integrated into the curriculum of a classroom, the sky is the limit. The computer will be there to assist each teacher as he/she demonstrates his/her own creative style of teaching. Dr. Robert Burke (1985), when asked what's on the horizon for computer use in school, states "possibly, just the greatest explosion of creative activity in human history" (p.3). Where, but in the heart

of the school, the classroom, would we find a more conducive setting for creativity?

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